

at 508, or if the MOD item 110 does not require authorization at 504, the process 500 can proceed to operation 512.

[0062] At operation 512, the customization module 408 can receive a selection of the user 102 of customization options. As non-limiting examples, the customization module 408 can receive one or more user-selected customization options for the MOD item 110 such as size, material, color, text, symbols, logos, or other design modifications to the MOD item 110. The customization module 408 can provide the customization options as a finite list, such as a drop down menu, item selection list, or other options provided by the browser application 206. In some aspects, an additional user interface may be provided for manipulation and customization of a virtual model of the MOD item 110 and the MOD item 110 can be manufactured based on the virtual model, e.g., the 3D manufacturing instructions 107 can be modified to reflect the customized virtual model. Customization may also include customizing all or a part of a selected MOD item 110. As a non-limiting example, a user 102 might select a particular kind of buckle or clasp to be produced as a MOD item 110 and delivered as part of an assembled or unassembled garment or bag. In another non-limiting example, a user 102 may select a particular hinge or fastening device to be manufactured as a MOD item 110 as part of a larger assembly. The larger assembly may or may not include all components that are MOD items 110. A size or other options may also be selected. In some aspects, the customization module 408 can provide for customization based on a functionality requested by the user 102. For example, rather than submitting a request indicating structural changes to a MOD item 110, the user 102 may submit a request specifying functional changes or goals. In a non-limiting example, a user 102 is building a piece of machinery that involves a rotating shaft and a pulley wheel that need to turn at different speeds, but lacks a component to mechanically link the two components. The user 102 utilizes his or her tablet to access an electronic marketplace network page and ultimately selects a generic gear offered as a MOD item 110. In a customization portion of the order, the user 102 requests that the selected gear be modified for attachment to the pulley wheel and interaction with the rotating shaft such that the pulley wheel will turn at a certain fraction of the rotating shaft's speed. The customization module 408 receives the request and interfaces with other modules such that the user 102 can ultimately use his own 3D printer to produce a MOD item 110 that will serve the requested function. In some aspects, customization to match a requested functionality can involve allowing a user 102 to select from multiple designs generated to meet the requested functionality. For example, the multiple designs may be generated by different algorithms accessible to the customization module 408 or by people that received the functionality request via the customization module 408.

[0063] At operation 514 in process 500, the delivery preferences module 410 can receive a selection of a user 102 of delivery options. For example, the delivery preferences module 410 may receive preferences of a user 102 as to the time or method of delivery of the MOD item 110. The delivery preferences module 410 may provide a user interface to the user 102 displaying delivery preference options for a user 102 to select and for the delivery preferences module 410 to receive at 514. Non-limiting examples of delivery preferences may include fastest option available, most economic option available, delivery to pick-up or storage location, delivery via vehicle, and delivery via a 3D manufacturing apparatus 108

owned by the user 102. The delivery preferences of a user 102 received by the delivery preferences module 410 may be utilized by delivery module 1002, as discussed in greater detail with regard to FIGS. 10 and 11 below.

[0064] At operation 516, the payment module 412 can determine a payment to be assessed for the MOD item 110. The amount of the payment assessed may be determined based on earlier selected options of the user 102 such as, but not limited to, the delivery options selected by the user 102, the customization options selected by the user 102, and/or whether or not the user 102 has an adequate level of authorization to change pricing considerations for the MOD item 110. At operation 518, the payment module 412 can receive a payment of the user 102. For example, the payment module 412 can receive a payment of the user 102 in the form of a credit card payment, a redemption code, a virtual payment service, or any other payment type.

[0065] An illustrative example of the process 500 follows. A user 102 may interact with a browser application 206 to order a MOD item 110. In this illustrative example, the MOD item 110 is a trophy. At operation 502, the order module 402 receives the selection by the user 102 via the browser application 206, which indicates the trophy as the selected item. At operation 504, the authorization module 406 determines that a trophy is not a restricted class (No at operation 504) and the process 500 proceeds to operation 512. The customization module 408 provides the user 102 with a number of customization options via the browser application 206. The user 102 is first presented with three customization options for a sport figurine for the top of the trophy: a football player, a tennis player, and a basketball player. Although the selection of the sports figurine could also reflect a user selection of a sports-specific trophy at operation 502, the sports figurine selection is discussed here as a customization option to highlight the versatility of the customization module 408). At operation 512, the customization module 408 receives the selection by the user 102 of the tennis player figurine. The browser application 206 next presents the user 102 with a text field associated with the base of the trophy. Still at operation 512, the customization module 408 receives the user's entry of "MVP 2016". The browser application 206 next presents the user 102 with a virtual model of the trophy. Still at operation 512, the customization module 408 receives the open-ended manipulation of the model by the user 102, including beveling the top four corners of the base and a 20% scale reduction in the size of the trophy. At 514, the delivery preferences module 410 checks to see if the user 102 has a default delivery preference established, and finding none, prompts the user 102 for delivery preferences. The delivery preferences module 410 detects that the user 102 has identified a 3D printer belonging to the user 102 and provides delivery options of print MOD item 110 at home or deliver MOD item 110 via vehicle. At 514, the delivery preferences module 410 receives the selection by the user 102 of print MOD item 110 at home. At 516, the payment module 412 determines the cost associated with printing the trophy at home and the cost adjustments (if any) for the customization of the trophy. At 518, the payment module 412 receives payment from the user 102 from the user's account with the service provider 101.

[0066] FIG. 6 depicts aspects of an example supplier interface module 602. Supplier interface module 602 can include a 3D manufacturing instructions retrieval module 604, an authorization module 606, an environmental offset module 608, and a payment module 610. The 3D manufacturing